Technical Review and the Evaluation of the
Application for Air Quality Significant Permit
Revision Number 42956

I. INTRODUCTION

This Class II Significant Revision is being issued to Northern Arizona University, the Permittee, for removing emergency generator with equipment ID No. EG – 12 as listed in Operating Permit # 33678 and the addition of the following equipment.

1. Boiler of maximum capacity 0.665 MMBtu/hr
2. 3 emergency generators of capacities 252 hp, 800 hp and 1100 hp
3. 8 cooling towers
4. 8 gas-fired kilns of maximum capacity of 0.5 MMBtu/hr each
5. 6 wood-fired kilns of maximum capacities 1.01 MMBtu/hr, 1.425 MMBtu/hr, 0.74 MMBtu/hr, 0.76 MMBtu/hr, 0.33 MMBtu/hr, and 3.8 MMBtu/hr
6. 1 spray booth heater and 2 spray booth blowers

The facility was issued a Class II permit (Number 33678) in January 2006, for the operation of boilers and internal combustion engines.

Company Information

Mailing Address	PO Box 4067 Flagstaff, AZ 86011
Facility Address	Northern Arizona University Flagstaff, AZ 86011 Coconino County

II. FACILITY DESCRIPTION

Northern Arizona University is an educational institution. Generators and boilers are used in the heating/cooling of various buildings and water in the university. Gas-fired and wood-fired kilns, spray paint booths and cooling towers are also used at this facility.

Thirty natural gas-fired boilers serve the campus of Northern Arizona University. The boilers are operated seasonally. Eleven diesel and three natural gas powered internal combustion engines are used at this facility to provide back up electricity in the event the public utility fails. The internal combustion engines operate only during routine weekly start-ups, maintenance, and brown outs.

Controls:

There are no air pollution controls on equipment at this facility.

III. LIMITATIONS ON POTENTIAL TO EMIT (PTE)

This facility has the PTE, when operating all thirty boilers, fourteen internal combustion engines, six wood-fired kilns, eight gas-fired kilns, one spray paint booth heater, two spray paint booth blowers, and 8 cooling towers for 8,760 hours per year, of more than 100 tons per year of NO_x, which would make the facility a major source by definition. However, since several boilers are for back up use and many others are for seasonal use only, the Permittee will limit the hours of operation of these boilers. The hours of operation allotted for each boiler are listed in Attachment "C" of the permit. Additionally, the operation of the fourteen emergency back-up internal combustion engines is limited to 200 hours per year per engine based on a twelve-month rolling total. There are also hourly restrictions on the gas-fired and wood-fired kilns and cooling towers.

IV. EMISSIONS

The uncontrolled emissions summary due to the addition of above listed equipment in tons per year is given below.

Pollutant	New Equipment
CO	666.4
NOx	15.72
SOx	2.6
VOCs	241.87
PM	88.44
PM_{10}	88.42
HAPs	9.21

The controlled emissions summary from the entire facility with hours limitations is given below, in tons per year.

Pollutant	Facility-wide
CO	83.11
NOx	89.96
SOx	2.63
VOCs	10.47
PM	8.48
PM_{10}	8.44
HAPs	7.01

V. COMPLIANCE HISTORY

Northern Arizona University has been in compliance with the permit conditions.

VI. MONITORING, REPORTING, AND RECORDKEEPING REQUIREMENTS

1. Internal Combustion Engines – NSPS Requirements

   Recordkeeping Requirements

   a. The Permittee must keep documentation that engine meets emission standards.

   b. The Permittee must keep monthly records of engine operation. The records must include the purpose of operation and the duration of time the engine was operated. The record must identify whenever the operation of the engine was for emergency purposes.

2. Cooling Towers, Gas-Fired and Wood-Fired Kilns

   Monitoring, recordkeeping and reporting requirements

   a. The Permittee must perform monthly surveys of visible emissions from the cooling towers, gas-fired and wood-fired kilns, in operation. If any observation appears to exceed the opacity standard, Permittee must conduct and record a proper Method 9 observation. If this observation is in excess of the opacity standard, suitable corrective action must be taken and also reported to the agency as an "excess emission". The Permittee is required to keep records of all surveys, observations, and results.

   b. The Permittee must maintain records of fuel supplier certifications. The certification must contain information regarding the name of fuel supplier and heating value of the fuel.

   c. The Permittee must keep records of monthly totals of the hours of operation of the gas-fired and wood-fired kilns.

   d. The Permittee must keep records of monthly totals of wood used in the wood-fired kilns.

VII. TESTING REQUIREMENTS

An NSPS applicable internal combustion engine with a displacement of less than 30 liters per cylinder is required to conduct performance tests in accordance with 40 CFR 60.4212.

VIII. LIST OF ABBREVIATIONS

A.A.C. ..... Arizona Administrative Code
ADEQ ..... Arizona Department of Environmental Quality
CO ..... Carbon Monoxide
EPA ..... Environmental Protection Agency
ICE ..... Internal Combustion Engines
NO_x ..... Nitrogen Oxides
PM ..... Particulate Matter
PM_{10} ..... Particulate Matter Nominally less than 10 Micrometers
SO_x ..... Sulfur Oxides
TPY ..... Tons per Year
VOC ..... Volatile Organic Compound